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APPLICATION NO. .	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/796,448

03/09/2004

H. Thomas Graef

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2402

28995

7590

08/28/2006

RALPH E. JOCKE

walker & jocke LPA

231 SOUTH BROADWAY

MEDINA, OH 44256

EXAMINER

KUMAR, RAKESH

ART UNIT

PAPER NUMBER

3654

DATE MAILED: 08/28/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b>		<b>Applicant(s)</b>	
	10/796,448		GRAEF ET AL.	
	<b>Examiner</b>		<b>Art Unit</b>	
	Rakesh Kumar		3654	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 06 June 2006.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-39 is/are pending in the application.
- 4a) Of the above claim(s) 1 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-39 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 09 March 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |   |   |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                        | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)    | Paper No(s)/Mail Date: _____  |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date: _____  | 6) <input type="checkbox"/> Other: _____                                    |

**FINAL REJECTION**

***Claim Rejections - 35 USC § 103***

1. Claims 2,3-11,15-17,23,24 and 35-39 are rejected under 35 U.S.C. 103(a) as being unpatentable over Furuki et al. (U.S. Patent Number 6,000,689) in view of Geib et al. (U.S. Patent Number 5,207,788) and further in view of Graef et al. (U.S. Patent Number D444,803)

2. Referring to claims 2 and 15. Furuki discloses an automatic paper feeding apparatus consisting of

a rotatable picking member 3 adapted to work in conjunction with a stripping member 4 to pick notes 1a generally one at a time from a stack of notes 1,

wherein the picking member 3 includes a first disk portion (construed to mean a portion of member 3, comprising the material located between the outer surface of the picking member 3 and the upper surface of the central shaft on which picking member 3 is disposed; Figure 9),

wherein the first disk portion (see description above) includes a high friction surface (Col.1 line 29; surface of member 3; Figure 9) to induce a frictional grip to draw the initial note from the note stack 1. In the event that two notes are moved toward a separating portion 19 in between the picking member 3 and the stripping member 4, the stripping member 4 rotates in the opposite direction relative to the rotation of the picking

member 3 and thus the contact frictional force between the two notes is overcome to separate the notes so that only a single note is allowed to move through the apparatus (Figure 9, Col 1 lines 20-40).

wherein the high friction surface (Col.1 line 29; surface of member 3; Figure 9) is adapted to act on an end note (1a) bounding the note stack (1).

The operative position of the picking member 3 in the apparatus is disposed transversely adjacent and in contact with the stripping member 4 as seen in Figure 9.

Furuki does not teach of disposing a high friction arcuate segment onto a first disk portion (see above) to prevent the deformation of the leading edge as the note is removed from the note stack. Furthermore, Furuki does not disclose the first disk portion to include a arcuate projecting portion.

Geib et al. teaches of disposing a high friction arcuate segment (13; Figure 1) on the external periphery of a roller member (12) as seen in Figure 3. Geib discloses the apparatus,

wherein the arcuate projecting portion (13) includes a projecting surface (see projections on member 13).

wherein the projecting surface (see projections on member 13) is adapted to act on a leading edge area (leading edge of note 20; Figure 4) of the end note (20) to prevent deformation of the leading edge area as the note (20) is acted upon by the high friction arcuate segment (13; Figure 1). In addition Geib discloses that an arrangement

of the protruding eccentric surfaces such as the “cheats” or the “indentations” on the periphery high friction arcuate segment can be altered and selectively placed on the surface in multiple configurations and sizes to prevent deformation of the leading edge of the notes as they are picked (Col 11 lines 5-12, 45, 65).

Geib does not specifically disclose the projecting surface as being adjacent and transversely disposed from the high friction arcuate segment.

Grafe et al. discloses a feed wheel (Figure 1) comprising a central tread at the outer surface of the wheel is essences to create greater frictional contact at the center area of the segment. Grafe furthermore disclose an area which is adjacent and transversely disposed from the high friction central arcuate tread segment. Grafe discloses a tread structure which is indented into the outer surface of the feed wheel to create a section of high friction surrounded by smooth area at the peripheral edges.

It would have been obvious to one of ordinary skill in the art at the time of the invention was made to modify the teaching Furuki in view of Geib to dispose a high friction arcuate segment (13; Geib) on the rotatable picking member (3; Furuki). Geib also discloses using externally protruding eccentric surfaces such as the “cheats” or the “indentations” on the periphery because it would increase the surface adherence to remove the uppermost note in the note stack and prevent double feeding.

It would have been further obvious to one of ordinary skill in the art at the time of the invention was made to modify the teaching Furuki in view of Geib and include a rotatable picking member with a centrally adjacent and transversely disposed high friction arcuate segment surrounded by a smooth area at the peripheral edges as disclosed by Grafe. In addition, the high friction arcuate segment can be an area which instead as taught by Grafe to be indented into the surface of the wheel can be a tread protrusions which extent outward from the surface of the roller because the protrusions would softly engage the uppermost note prior to the remainder of the roller engaging the sheet thus reducing note deformation due to initial contact.

3. Referring to claim 3. See claim 1. Furuki discloses a picking member (3) in the apparatus (see disclosure above).

Geib et al. teaches of disposing a high friction arcuate segment (13; Figure1) on the external periphery of a roller member (12) as seen in Figure 3, wherein the picking member (3; Furuki) includes an arcuate projecting surface (13 Geib).

Grafe disclose an area which is adjacent and transversely disposed from the high friction central arcuate tread segment (see claim 1),

wherein the projecting surface (13 Geib) extends radially outward (see orientation of treads of member 13 projecting away from the center of roller 12) relative to the first disk portion (construed to mean a portion of member 12, comprising the material located between the outer surface of the member 12 and the upper surface of

the central shaft on which member 12 is disposed; Figure 3; Geib), beyond the high friction arcuate segment (central area of the tread structure of the Graef surrounded transversely by the projecting surface of the wheel; Figure 1).

4. Referring to claim 4. See claim above. Graef disclose the feed wheel (Figure 1), wherein the projecting surface (peripheral surrounding area to the tread structure) extends radially outwards (on either ends) relative to the high friction segment (central tread) through an arc (the arc width) on the disk portion (see above) that is less than an arc (the arc width of the high friction arcuate segment) through which the high friction arcuate segment extends.

5. Referring to claim 5. It would have been obvious to one of ordinary skill in the art at the time of the invention was made to modify the teaching Furuki in view of Geib and further in view of Grafe as disclose above such that wherein the high friction surface would consist of the outward protrusions extending from the surface would inherently create a forward boundary (the front portion of the projection that first come into contact with end note surface followed by the remainder of the surface).

6. Referring to claim 6. See above. It would have been obvious to one of ordinary skill in the art at the time of the invention was made to modify the teaching Furuki in view of Geib and further in view of Grafe and include a thin circumferential resilient band extending in the recess of the first disk portion and including a large outer surface for

the high friction arcuate segment to be mounted onto, because using a recess in the first disk portion would considerably reduce the mass of the picking member thus improving response time for the picking member.

7. Referring to claims 7-9. See above. Graef discloses a low friction arcuate segment (covering the entire surface of the wheel; Figure 1) and wherein the low friction arcuate segment includes a projecting surface. Wherein the high friction arcuate segment (treaded region) includes angles treads (see Figure 1; Graef). Wherein the band is transversely wider in an area comprising the high friction arcuate segment (treaded region).

8. Referring to claims 10,11,16, and 17. See claims above. Graef disclose the feed wheel (Figure 1), wherein a first outbound high friction portion (see left side edge of member; Figure 1; Graef) disposed on a first transverse side of the first disk portion, wherein a second outbound high friction portion (see right side edge of member; Figure 1; Graef) disposed on a second side of the first disk portion, wherein the second side is opposed of the first transverse side (see Figure 1) and wherein the first and second outbound high friction portions are transversely aligned with at least a portion of the high friction arcuate segment (see positioning on Figure 1 and 2).

Referring to claims 23 and 24. See claims above.

Referring to claims 35-39. See claims above.



***Allowable Subject Matter***

9. Claims 12-14, 18-22 and 25-34 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

***Response to Arguments***

10. Applicant's arguments that the prior art fails to teach the claimed features are unpersuasive.

11. The indicated allowability of claims 2-11, 15-17, 23 and 24 in the previous Office Action filed 09/09/2005 are withdrawn in view of the newly discovered reference(s) to Gref et al. (U.S. Patent Number D444,803 S). Rejections based on the newly cited reference(s) follow. See claims above.

12. Referring to claims 35 and 36. In response to applicant's argument that "the references, taken alone or in combination, do not teach or suggest the recited features and relationships" as presented by the Applicant in claim 35 are unpersuasive, the test for obviousness is not whether the features of a secondary reference may be bodily

incorporated into the structure of the primary reference; nor is it that the claimed invention must be expressly suggested in any one or all of the references. Rather, the test is what the combined teachings of the references would have suggested to those of ordinary skill in the art. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981).

In response to applicant's argument that there is no suggestion to combine the references, the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992).

In this case, Furuki discloses a paper feeder comprising a picking member (3) disposed to work in conjunction with a stripping member (4). Wherein sheets of paper are individually removed from a stack of media by allowing the picking member to engage the uppermost sheet in the stack. Furuki discloses, in order to selective remove the topmost sheet from the stack and prevent the chance of feeding multiple sheets into the apparatus the frictional force that exists between the individual sheets situated in the stack must be overcome by the contact frictional force between the picking member and the frictional force between the two sheets (the specific structure of the prior art can be seen in claim above). Thus, Furuki discloses using a frictional outer surface disposed

on the picking member to remove the sheet, however the specific structure of the surface is not revealed.

Geib discloses a monetary bill handling apparatus wherein a drum roller (12) is in engagement with a picking member (14). Geib discloses disposing an arcuate projecting segment onto a roller surface to improve the contact grip of the roller. Geib further discloses utilizing variations of eccentric projections "cleats" to improve the note contact. Graef disclose a feed wheel with a specific configuration to as to the specific structure of contact surface as is disclosed in the above claims.

It would have been obvious to one of ordinary skill in the art at the time of the invention was made to modify the teaching Furuki in view of Geib and further in view of Graef to provide teaching for the apparatus disclose above.

Regarding to Applicants Remarks filed 06/06/2006 see below.

The Applicant argues the prior art reference of Furuki is "directed to a copy machine, and is non analogous art." The Furuki reference discloses a series of rollers positioned to feed sheets into the apparatus by selectively engaging in picking the topmost sheet from a stack of sheets positioned near the pick roller (3; see rejection above), regardless of the medium being carried or transported is a sheet (as suggested by Furuki), plastic sheet or a bank note, it is in the view of the Office such that the apparatus disclosed by Furuki is analogous art to the transport system of an automated banking machine. It is also in the view of the Office an apparatus designed to transport

or pickup sheet can perform reasonably in the process of picking up currency notes because in view of the Office the currency notes are media sheets.

In response to applicant's arguments against the references individually, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986).

In regards to the applicants argument Graef is "an ornamental design and has no disclosed functional benefits." The applicant is reminded the teachings gleaned from Graef are in combination with the stated prior art above. Graef specifically states a "Feed wheel tread" along with a detailed drawing depicting a region of the feed wheel wherein the stated "tread" is localized in the center vicinity of the feed wheel with no tread configuration around the encompassing border of the "tread" region. It would have been obvious to one of ordinary skill in the art at the time of the invention was made to view the structure of Graef in light of the disclosed prior art (above) and glean that a tread like configuration can be disposed at a center of a feed wheel which can be encircled by a non-treaded region. A treaded region as compared to a non-treaded region in the view of the Office will inherently provide higher friction in the threaded region and a lower friction in the non-treaded region.

**THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

### ***Conclusion***

13. Any references not explicitly discussed above but made of record are considered relevant to the prosecution of the instant application.

14. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Rakesh Kumar whose telephone number is (517) 272-8314. The examiner can normally be reached on 8:00AM - 4:30PM.


If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kathy Matecki can be reached on (571) 272-6951. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see

<http://pair-direct.uspto.gov>.

Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

RK  
August 20, 2006

  
KATHY MATECKI  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 3600